

REMARKS

Claims 1 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,058,844 to Niemiec ("Niemiec") in view of U.S. Patent No. 3,238,869 to West et al. ("West"). Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and U.S. Patent No. 3,875,682 to Justus et al. ("Justus"). Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and U.S. Patent No. 6,550,390 to Frankenberger ("Frankenberger"). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and U.S. Patent No. 5,913,471 to Makosch et al. ("Makosch"). Claims 7, 10 to 13 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and U.S. Patent No. 4,508,033 to Fischer ("Fischer"). Claims 8 and 24 to 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West, Fischer and Justus. Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of Fischer, West and Makosch. Claims 14 to 18 and 20 to 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Justus.

Claims 1, 7 and 23 are hereby amended to include some of the limitations of claims 2, 8 and 24, respectively. Accordingly, claims 2, 8 and 24 are also hereby amended.

Reconsideration of the application based on the following remarks is respectfully requested.

Rejections under 35 U.S.C. §103(a): Claims 1, 2 and 5

Claims 1 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West. Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Justus. Claim 1 has been amended to include some of the limitations of claim 2.

Niemiec discloses a printing press which includes a series of printing units 16 for printing an unwound web 14 from unwind station 12. (Niemiec, Fig. 1). After printing, the web 14

passes sequentially through a floater oven 18 and chiller rolls 20 before passing to a sheeter/folder/-rewinder station 22. (Id.).

West discloses a label imprinting apparatus which includes two front guides 160 and 161 at the output of printing cylinder 30 and serve to prevent printed labels from sticking to the printing cylinder 30. (West, Fig. 3, col. 10, lines 3-12).

Justus discloses a driven edge roll 16 mounted in a drum dryer positioned at the edge of a web W so that it applies pressure to the web W. (Justus, Fig. 1). The edge roll 16 is driven at a speed of between 50 and 100 percent, preferably 75 percent, of the speed of web travel to eliminate flutter of the web W within the dryer. (Justus, col. 2, line 65 to col. 3, line 6). Notably, the edge roll 16 does not extend across the entire web W and thus does not affect the speed of travel of the web W itself. As a result, since the edge roll 16 is placed between dryer drums 13 and 14, it does not appear that the edge roll 16 operates to convey the web or affects the tensile stress of the web W at points prior to dryer drum 13 at all.

Claim 1, as amended, recites “[a] web-fed rotary printing press, comprising:
at least one press cylinder for printing a paper web conveyed at a controllable first tensile stress;
a dryer disposed downstream of said press cylinder, said dryer guiding the web along a path;
a pull roll disposed downstream of said dryer for conveying the paper web along said path under a second tensile stress;
a first apparatus disposed downstream of said press cylinder and upstream of said dryer for separating the paper web from said press cylinder during a normal printing operation, said separating of the paper web from said press cylinder being decoupled from the conveying of said paper web along said path;
a second apparatus for driving said pull roll at a controllable rotational speed which sets said second tensile stress; and

a controller coupled to said at least one press cylinder and to said second apparatus, said controller setting said first tensile stress and said second tensile stress such that said second tensile stress is less than said first tensile stress.”

It is respectfully submitted that none of Niemiec, West or Justus, alone or in combination, discloses the “controller” of claim 1. The Examiner states that the “pull roll” and “second apparatus” of claim 1 are taught by Niemiec and the “controller” of claim 1 is inherently taught by Justus. The Examiner contends that Justus teaches “an apparatus for driving a pull roll for a paper web at a rotational speed being reduced as compared to a rotational speed of a press cylinder in order to set the tensile stress to a value suitable for conveying the paper web after separation from the press cylinder, thereby providing a tensile stress considerably lower than that in a printing path upstream of said at least one press cylinder.” (September 15, 2009 Final Office Action, page 3).

However, it is respectfully submitted that the Examiner either misunderstands or mischaracterizes Justus. As discussed above, the driven edge roll 16 of Justus is merely rotated adjacent to web W to prevent flutter as web W is conveyed by drums 13, 14, 15 in a dryer. Driven edge roll 16 is not used to convey web W or to set the tensile stress of web W. Justus does explicitly not teach a controller. Furthermore, Justus does not inherently teach “a controller coupled to said at least one press cylinder and to said second apparatus, said controller setting said first tensile stress and said second tensile stress such that said second tensile stress is less than said first tensile stress” as required by claim 1. First, it is respectfully submitted that because driven edge roll 16 is not used to set the tensile stress of web W, Justus does not teach a controller that is coupled to a “second apparatus for driving said pull roll at a controllable rotational speed which sets said second tensile stress,” the controller “setting said second tensile stress” to be less than an upstream first tensile stress as required by claim 1. Second, it is respectfully submitted that Justus does not disclose a controller coupled to an apparatus that drives a pull roll “downstream” of a dryer as required by claim 1, because driven edge roll 16 of Justus is in a paper dryer and thus is not downstream of a dryer. (Fig. 1; col. 1, lines 66 to 68). Third, it is respectfully submitted Justus in no way discloses, explicitly or inherently, a controller

that is coupled to “at least one press cylinder” and “set[s]” a first tensile stress of a web at the “at least one press cylinder” as required by claim 1. Also, none of the other cited references cures these deficiencies of Justus. Also, because none of the other cited references cures these deficiencies of Justus and one of skill in the art would not have had any reason to have combined any of the cited references to teach the “controller” of claim 1, claim 1 is not unpatentable as obvious in view of these references.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 1 and its dependent claims 2 and 5 is respectfully requested.

Furthermore, dependent claim 2 requires that “said controller sets said first tensile stress and said second tensile stress such that said second tensile stress is **10% or less** than said first tensile stress.” (emphasis added). None of Niemiec, West and Justus teaches or suggests a controller setting two tensile stress levels in the claimed proportion of “10% or less” as specifically required by claim 2. Claims 2 is thus not obvious over the cited prior art combination for this additional reason.

Rejections under 35 U.S.C. §103(a): Claims 3 and 4

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Frankenberger.

Niemiec and West are described above. Frankenberger discloses an apparatus for releasing a paper web from a cylinder using ultrasonic waves. (Frankenberger, Fig. 1, col. 4, lines 31 *et seq.*).

Claims 3 and 4 are dependent on independent claim 1. As discussed above, Niemiec in view of West and Justus does not render claim 1 unpatentable as obvious. Thus, since Frankenberger does not disclose the limitation of claim 1 missing from the cited combination as discussed above, claims 3 and 4 are likewise not unpatentable as obvious over Niemiec in view of West and Justus, and further in view of Frankenberger. Withdrawal of the rejections of claims 3 and 4 under 35 U.S.C. §103(a) on this basis is thus respectfully requested.

Rejections under 35 U.S.C. §103(a): Claim 6

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Makosch.

Niemiec and West are described above. Makosch discloses a separating roll 3, 4 for a printing press having respective outer surfaces 3a, 4a made from an ink-repellent material. (Makosch, Fig. 1, col. 3, lines 35-37).

Claim 6 is dependent on independent claim 1. As discussed above, Niemiec in view of West and Justus does not render claim 1 unpatentable as obvious. Thus, since Makosch does not disclose the limitation of claim 1 missing from the cited combination as discussed above, claim 6 is likewise not unpatentable as obvious over Niemiec in view of West and Justus, and further in view of Makosch. Withdrawal of the rejection of claim 6 under 35 U.S.C. §103(a) on this basis is thus respectfully requested.

Rejections under 35 U.S.C. §103(a): Claims 7, 8 and 10 to 13

Claims 7 and 10 to 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Fischer. Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West, Fischer and Justus. Claim 7 has been amended to include some of the limitations of claim 8.

Niemiec, West and Justus are described above. Fischer discloses a printing press in which a web 13 from roll support spider 7 is sequentially printed by four print units 1 to 4, and then sequentially passed to a dryer 8, a cooling station 9 and a folding device 11. (Fischer, Fig. 1). A web tension monitoring device 10 is provided at the output of the last printing unit 4. (Id.). In addition, a paper web capturing apparatus 12 is provided between the last printing unit 4 and the dryer 8 and serves to slightly increase the tension on the web 13 as it exits the last printing units and, in the event of a tear in the web 13, captures the web 13 by allowing web 13 to wind around one of rollers 14, 15. (Fischer, col. 3, lines 1 *et seq.*).

Claim 7 as amended recites “[a] web-fed rotary printing press, comprising:

at least one press cylinder for printing a paper web conveyed under a controllable first tensile stress;

a dryer disposed downstream of said press cylinder, said dryer guiding the paper web along a path;

a first pull roll disposed downstream of said dryer to convey the paper web along the path under a second tensile stress;

a second pull roll, which is disposed downstream of said press cylinder and upstream of said dryer, for releasing the paper web during a normal printing operation and for controllably setting a third tensile stress on the paper web between the at least one press cylinder and said second pull roll;

an apparatus for driving said first pull roll at a controllable rotational speed which sets said second tensile stress; and

a controller coupled to said at least one press cylinder and to said apparatus, said controller setting said first tensile stress and said second tensile stress such that said second tensile stress is less than said first tensile stress.”

It is respectfully submitted that none of Niemiec, West, Fischer or Justus, alone or in combination, discloses the “controller” of claim 7. As discussed above with respect to claim 1, the driven edge roll 16 of Justus is merely rotated adjacent to web W to prevent flutter as web W is conveyed by drums 13, 14, 15 in a dryer. Driven edge roll 16 is not used to convey web W or to set the tensile stress of web W. Justus does explicitly not teach a controller. Furthermore, Justus does not inherently teach “a controller coupled to said at least one press cylinder and to said apparatus, said controller setting said first tensile stress and said second tensile stress such that said second tensile stress is less than said first tensile stress” as required by claim 7. First, it is respectfully submitted that because driven edge roll 16 is not used to set the tensile stress of web W, Justus does not teach a controller that is coupled to a “apparatus for driving said first pull roll at a controllable rotational speed which sets said second tensile stress,” the controller “setting said second tensile stress” to be less than an upstream first tensile stress as required by claim 7. Second, it is respectfully submitted that Justus does not disclose a controller coupled to an apparatus that drives a pull roll “downstream” of a dryer as required by claim 7, because driven

edge roll 16 of Justus is in a paper dryer and thus is not downstream of a dryer. (Fig. 1; col. 1, lines 66 to 68). Third, it is respectfully submitted Justus in no way discloses, explicitly or inherently, a controller that is coupled to “at least one press cylinder” and “set[s]” a first tensile stress of a web at the “at least one press cylinder” as required by claim 7. Also, none of the other cited references cures these deficiencies of Justus. Also, because none of the other cited references cures these deficiencies of Justus and one of skill in the art would not have had any reason to have combined any of the cited references to teach the “controller” of claim 7, claim 7 is not unpatentable as obvious in view of these references.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 7 and its dependent claims 8 and 10 to 13 is respectfully requested.

Furthermore, dependent claim 8 requires that “said controller sets said first tensile stress and said second tensile stress such that said second tensile stress is **10% or less** than said first tensile stress.” (emphasis added). None of Niemiec, West, Fischer or Justus teaches or suggests a controller setting two tensile stress levels in the claimed proportion of “10% or less” as specifically required by claim 8. Claims 8 is thus not obvious over the cited prior art combination for this additional reason.

Rejections under 35 U.S.C. §103(a): Claims 23 to 26

Claim 23 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Fischer. Claims 24 to 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West, Fischer and Justus. Claim 23 is hereby amended to include some of the limitations of claim 24.

Niemiec, West, Justus and Fischer are described above.

Claim 23 as amended recites “[a] web-fed rotary printing press, comprising:
at least one press cylinder for printing a paper web conveyed under a controllable first tensile stress;

a dryer disposed downstream of said press cylinder, said dryer guiding the paper web

along a path;

a first pull roll disposed downstream of said dryer to convey the paper web along the path under a controllable second tensile stress;

a second pull roll disposed downstream of said press cylinder and upstream of said dryer for releasing the paper web during a normal printing operation and for controllably setting a third tensile stress on the paper web between the at least one press cylinder and said second pull roll;

an apparatus for driving said first pull roll at a controllable rotational speed to set said second tensile stress; and

a controller coupled to said apparatus and to said second pull roll for controlling said second tensile stress and said third tensile stress such that said second tensile stress is less than said third tensile stress.”

It is respectfully submitted that none of Niemiec, West, Fischer or Justus, alone or in combination, discloses the “controller” of claim 23. As discussed above with respect to claims 1 and 7, the driven edge roll 16 of Justus is merely rotated adjacent to web W to prevent flutter as web W is conveyed by drums 13, 14, 15 in a dryer. Driven edge roll 16 is not used to convey web W or to set the tensile stress of web W. Justus does explicitly not teach a controller. Furthermore, Justus does not inherently teach “a controller coupled to said apparatus and to said second pull roll for controlling said second tensile stress and said third tensile stress such that said second tensile stress is less than said third tensile stress” as required by claim 23. First, it is respectfully submitted that because driven edge roll 16 is not used to set the tensile stress of web W, Justus does not teach a controller that is coupled to a “apparatus for driving said first pull roll at a controllable rotational speed which sets said second tensile stress,” the controller “controlling said second tensile” to be less than an upstream third tensile stress as required by claim 23. Second, it is respectfully submitted that Justus does not disclose a controller coupled to an apparatus that drives a pull roll “downstream” of a dryer as required by claim 23, because driven edge roll 16 of Justus is in a paper dryer and thus is not downstream of a dryer. (Fig. 1; col. 1, lines 66 to 68). Third, it is respectfully submitted Justus in no way discloses, explicitly or inherently, a controller that is coupled to a “second pull roll...for controllably setting a third tensile stress on the paper web between the at least one press cylinder and said second pull roll”

and “set[s]” the third tensile stress of the web to be greater than the downstream second tensile stress as required by claim 23. Also, because none of the other cited references cures these deficiencies of Justus and one of skill in the art would not have had any reason to have combined any of the cited references to teach the “controller” of claim 23, claim 23 is not unpatentable as obvious in view of these references.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 23 and its dependent claims 24 to 26 is respectfully requested.

Furthermore, dependent claim 24 requires that “the controller controls said second tensile stress and said third tensile stress such that said second tensile stress is **10% or less** than said third tensile stress.” (emphasis added). None of Niemiec, West, Fischer or Justus teaches or suggests a controller setting two tensile stress levels in the claimed proportion of “10% or less” as specifically required by claim 24. Claims 24 is thus not obvious over the cited prior art combination for this additional reason.

Rejections under 35 U.S.C. §103(a): Claim 9

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of Fischer, West and Makosch.

Niemiec, Fischer, West and Makosch are described above.

Claim 9 is dependent on independent claim 7. As discussed above, Niemiec in view of Fischer, West and Justus does not render claim 7 unpatentable as obvious. Thus, since Makosch does not disclose the limitation of claim 7 missing from the cited combination as discussed above, claim 9 is likewise not unpatentable as obvious over Niemiec in view of West and Justus, and further in view of Makosch. Withdrawal of the rejection of claim 9 under 35 U.S.C. §103(a) on this basis is thus respectfully requested.

Rejections under 35 U.S.C. §103(a): Claims 14 to 18 and 20 to 22

Claims 14 to 18 and 20 to 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemiec in view of West and Justus.

Niemiec, West and Justus are described above.

Claim 14 recites “[a] method for treating a printing material web in a printing material web in a web-fed rotary printing press, which further comprises:

feeding a paper web to a press cylinder under a first controllable tensile stress;

printing on the paper web using the press cylinder;

conveying the paper web along a drying path under a second controllable tensile stress of the paper web which is controllably set to be equal to or less than 10% of the first controllable tensile stress; and

separating the paper web from the press cylinder during a normal printing operation, the separating of each paper web from the press cylinder being decoupled from the conveying of the paper web along the path.”

Claim 14 requires that a web be fed to “a press cylinder under a first controllable tensile stress” and then be conveyed “along a drying path under a second controllable tensile stress of the paper web which is **controllably set to be equal to or less than 10% of the first controllable tensile stress.**” None of Niemiec, Fischer, West and Justus teaches or suggests a controller used to controllably set two different tensile stress levels on the web as it passes through a printing press, and none teaches or suggests setting two tensile stress levels in the claimed proportion of “equal to or less than 10%” as specifically required by claim 14. Thus, claim 14, and the claims dependent thereon, are not obvious over the cited prior art combination.

Based on the foregoing, withdrawal of the rejections of claim 14 at its dependent claims 15 to 18 and 20 to 22 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,
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